USDA United States Department of Agriculture | Forest Service | Daniel Boone National Forest
London Ranger District | 761 South Laurel Road
London, KY 40744
606-864-4163

File Code: 2510
Date: MAR 2 2 2018

Dear Interested Citizen

The London Ranger District of the Daniel Boone National Forest (DBNF) is inviting you to comment on the Pine Creek Forest Restoration Project ("Pine Creek Project"). You are receiving this letter because you have requested to be notified of activities proposed on National Forest system lands. The following information is provided to allow you an opportunity to review and comment on this proposal.

The Pine Creek Project is a watershed-level habitat enhancement and forest restoration project that utilizes a broad range of resource data and extensive vegetation surveys to determine existing resource conditions, with the aim of bringing the area closer to the desired future conditions described in the *Land and Resource Management Plan for the Daniel Boone National Forest* ("Forest Plan," 2004).

The Pine Creek Project area spans approximately 113,200 acres within the Pine Creek Watershed, of which 45,700 acres are National Forest System lands in Laurel, Rockcastle, and Pulaski Counties, Kentucky. The project boundary was selected because it contains three smaller watersheds that are well defined within the larger Pine Creek Watershed: the Buck Creek and the Sinking Creek-Rockcastle River watersheds, as well as the Pitman Creek-Cumberland River Watershed north of the Cumberland River. See the enclosed project area map for the location of proposed management activities within the project area.

Purpose and Need for Action

The purpose of the Pine Creek Project is to restore functional, resilient, and desirable forest conditions that enhance wildlife habitat composition and structure. Information gathered in the project area identified several areas across the landscape that do not currently meet desired resource conditions defined in the Forest Plan, such as a lack of diverse habitat types and their distribution across the landscape, an increase in undesirable fire-sensitive species within oak and pine forest communities, a loss of shortleaf pine forest communities due to the southern pine beetle epidemic at the turn of the century, and insufficient oak regeneration and recruitment into the canopy.

Collaboration with partners and the public further identified deficient forest conditions and wildlife habitat concerns that need to be addressed within the watershed. For example, there is a lack of early seral habitat (vegetation 10 years old and younger) across the forest (see Figure 1). Early seral habitat is important to wildlife because it provides tender browse

and forbs for a wide variety of wildlife, and breeding and nesting habitat for many bird species, including ruffed grouse and turkey.

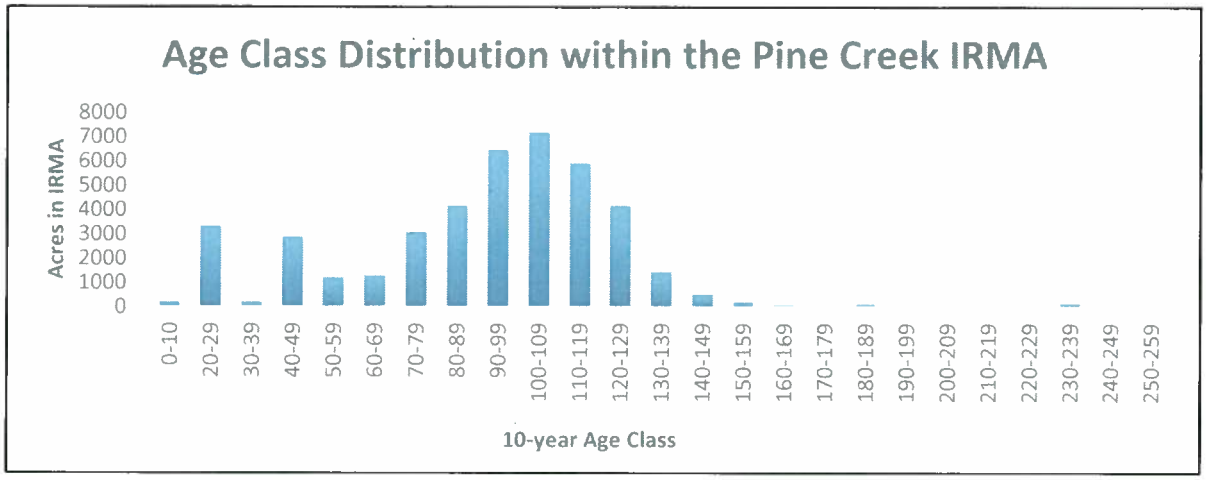

Figure 1. Age class distribution of forest stands within the Pine Creek Project area in 10-year increments, as of February, 2017.

There is also a need to improve declining forest conditions and benefit local communities by:

- creating and maintaining grasslands, woodlands, and savannas for wildlife;
- restoring shortleaf pine from the destructive impacts of the southern pine beetle;
- maintaining, improving, or closing roads and trails;
- reducing non-native invasive plant species and increasing native plant diversity and resilience;
- reintroducing fire to the landscape;
- reducing or eliminating white pine and other fire-intolerant species from the uplands;
- providing wood products to meet the needs of local industry and provide economic benefits to communities; and
- salvaging timber stands damaged by wildfire.

Proposed Action

The proposed action has been developed to help move the Pine Creek watershed from its current condition to the desired future condition described in the Forest Plan. Refer to Figure 2 for locations of the following proposed treatments:

- **Early seral habitat:** To create approximately 1,300 acres of early seral habitat across the project area, we propose the following forest restoration activities:
    - **Two-aged shelterwood:** This method removes most of the existing vegetation,

reducing basal area[1] to 10 – 20 ft^2/acre, but retains about 7 – 20 select trees per acre, depending on their diameter, creating a community made up of older overstory trees and young trees that will eventually take their place. This provides sunlight to young oaks and other desirable species so they can grow into the overstory. This will be accomplished through several small commercial timber harvests over the life of the project. Each shelterwood unit would be no more than 40 acres in size and buffered by at least 330 feet between it and the next two-age shelterwood. We would use adaptive management to select the 40-acre units within the stand boundaries delineated in the attached map, as well as the most appropriate treatment for the buffers, based on current and desired conditions. Site selection for shelterwood units and their buffers would occur during project layout to create the best habitat structure possible, based on existing conditions (vegetation, slope, aspect, distance from riparian areas, etc.), state and federal Best Management Practices, and project design criteria. Wood products removed in commercial operations would help to meet the needs of local industry and provide economic benefits to communities. Revenue obtained from commercial harvests would provide the ability to fund forest restoration and habitat improvement projects, such as planting trees with our partners and volunteers, restoring streams, maintaining roads, and installing interpretive signs.

  - **Site preparation:** Within the shelterwood harvest units, site preparation for natural or hand-planted oak regeneration would be conducted using a cut-surface treatment of an herbicide one to two years prior to the harvest, or immediately following the harvest to reduce re-sprouting of undesirable native species, such as red maple.

  - **Edge habitat:** To create edge habitat and structural diversity, a minimum buffer of 330 feet between shelterwood stands may be commercially thinned, may receive a non-commercial midstory removal with herbicide, or may remain untreated. Trees that receive a cut surface herbicide application may be felled or remain standing to provide forage and roosting habitat for bats and bark-foraging birds, such as nuthatches and woodpeckers.

- **Woodland and wooded grassland/shrubland communities:** Woodland and wooded grassland/shrubland are community types with little understory or midstory maintained with recurring fires. Basal area would be reduced to 10 – 29 ft^2/acre for wooded grassland/shrubland (about 5 – 30 trees/acre) and 30 – 50 ft^2/acre for woodland (about 15 – 40 trees/acre).

  - Approximately 730 acres of commercial timber harvest is proposed to establish

[1] Basal area is the cross-sectional area of a tree 4.5 feet above ground. The basal area of all trees in a given land area describes the degree to which an area is occupied by trees and is usually expressed in square feet per acre (ft^2/acre).

woodland and wooded grassland/shrubland communities, and would be maintained by prescribed fires.

- Approximately 160 acres of non-commercial woodland and wooded grassland/shrubland would be created by hand-felling trees and leaving them on the ground. These units would be maintained by prescribed fires.
- Both commercial and non-commercial woodland and wooded grassland/shrubland treatment units would receive cluster planting of shortleaf and pitch pine one to two years following the prescribed fire and in previously disturbed areas, such as skid roads and trails, log landings, and other suitable micro-climates. Loosening of the soils using hand tools may be needed in cluster planting locations to improve seedling survival.

- **Planting of mast-producing trees:** Mast-producing tree species, such as oaks, hickories, and persimmon that are preferred by deer, bear, grouse, turkey, squirrels, and many other species, would be planted within two-age shelterwood units that lack natural oak regeneration. Seedlings would be strategically planted in locations that provide the optimal micro-climate for the particular species being planted. Wildlife openings that lack mast-producing species and structural diversity would receive plantings of oak, blackgum, persimmon, and other forage-producing species. The number of acres planted would depend on available human resources and funding. These planting areas could serve as demonstration plots for public education.
- **Shortleaf pine stand improvement :** We propose to restore approximately 1,500 acres of forest stands formerly dominated by shortleaf pine before the southern pine beetle epidemic from 1999-2001. Activities would include enhancing natural shortleaf pine regeneration through prescribed fire, planting shortleaf pine seedlings in small clusters or with wide spacing in areas where natural regeneration of shortleaf pine is lacking, and thinning dense clumps or small stands of existing shortleaf pine to promote more vigorous growth. In addition, shortleaf pine stands that consist of mature shortleaf that were previously designated for red-cockaded woodpecker (RCW) or designated as RCW foraging areas would also receive maintenance through prescribed fire. Undesirable competing vegetation, such as white pine and red maple found adjacent to shortleaf pine or within the understory of mature shortleaf would be cut and treated with an herbicide to prevent regrowth. In addition, small areas within young shortleaf stands or adjacent to mature shortleaf that contain native grasses or rare plant communities may be cleared of encroaching trees and maintained through prescribed fire.
- **Midstory removal:** In a forest community with a multi-layered structure of canopies, midstory is the term used for brush, small tree species, and immature trees at an intermediate height between the overstory and the understory. Up to 2,700 acres of midstory canopy would receive non-commercial midstory removal treatments which

would allow more sunlight to reach the ground. Sunlight and space to grow is vital for oak regeneration and recruitment into the overstory. Suppressed oak saplings that have become stunted due to poor sunlight would be cut to ground level to stimulate new, healthy growth. Undesirable species would be cut and treated with a cut-surface treatment of herbicide to reduce re-sprouting and competition. Approximately 10 years after midstory treatment, a maximum of 2,000 acres outside of proposed and existing prescribed burn blocks may receive a commercial two-aged shelterwood treatment, depending on access and site-specific characteristics of each stand to allow established young oak trees to grow into the overstory.

- **Crop tree release**: Approximately 1,200 acres would receive non-commercial crop tree release treatments to take place over the lifespan of the project. Because of timber harvests in the 1980s and 1990s, a component of the Pine Creek Project area consists of stands between 20 and 29 years old (see Figure 1). Stands this age are typically overstocked with a wide variety of tree species competing for the same resources, such as sunlight, moisture, and soil nutrients. The crop tree release method provides increased growing space to select trees with favorable characteristics, such as species, vigor, bole quality, and crown class by "releasing" them, or hand-felling competing trees on three to four sides of the selected tree. Crop tree release also opens up wildlife habitat and improves stand resilience. Desired tree species to be released include white oak, chestnut oak, northern red oak, southern red oak, black oak, shortleaf pine, pitch pine, and hickory.

- **Old-Growth:** Approximately 830 acres of Designated Old-Growth exists in the Pine Creek Project area. No management treatments are proposed at this time within the Designated Old-Growth stands. Several members of the public have requested that we manage for more old-growth in the project area, so we are proposing to set aside an additional 500 acres as Designated Old-Growth. Approximately 370 acres adjacent to the Rock Creek Research Natural Area (RNA) would be designated as old-growth to expand the natural qualities of the RNA and up to 130 acres in the Angel Hollow area north of Highway 80 would be designated as old-growth because of its existing old-growth characteristics and rough topography. In addition, approximately 11,000 acres are within riparian corridors and would be allowed to grow into older forest types.

- **Rare plants:** Many rare plants need specific micro-environmental conditions in order to survive and regenerate. For example, some need to be burned occasionally to propagate their seeds, while others need more sunlight than they are currently receiving. We are working with partners such as The Nature Conservancy, Kentucky Hardwood and the Kentucky State Nature Preserves Commission (KSNPC) to identify rare plant communities and the best prescriptions for each. This includes activities such as prescribed burning and thinning along roadsides to allow more sunlight to reach the understory. This also includes planting new populations of rare plants when seed or

planting stock is available, which will be completed through collaboration with our partners.

- **Wildlife openings, grassland habitat, and edge habitat:** The following vegetation treatments may be used to create or maintain desired conditions for wildlife openings:
    - Continue working with the Kentucky Department of Fish and Wildlife Resources (KDFWR) to designate 4,005 acres of NFS land for inclusion in the Rockcastle River Wildlife Management Area in the Ano area of Pulaski County. The WMA will encompass 6,930 acres on both national forest and KDFWR lands, and will be managed under a joint agreement between the two agencies. Management activities would include NNIPS removal, shortleaf pine planting, grassland habitat creation, and grouse habitat establishment.
    - Commercially or non-commercially thin, masticate, and/or burn wildlife openings and corridor edges to create or enhance approximately 600 feet of edge habitat around wildlife openings in the Cane Creek WMA within the Pine Creek Project area.
    - Use broadcast and/or spot herbicide treatment to reduce undesirable native and non-native plant species in existing wildlife openings and in the edge habitat around the wildlife openings.

- **Road and trail construction and maintenance:** Some NFS roads will need maintenance to enable implementation of forest restoration efforts. Temporary access roads, skid roads, and skid trails would be rehabilitated after timber harvests are complete. No new permanent roads are proposed. User-created trails and roads identified in the DBNF Travel Analysis Report (2017) would be assessed for closure and rehabilitation during and after project completion.

  Further, we propose to conduct variable density thinning along roads used during implementation of commercial timber harvest activities. This would involve thinning or removing trees hanging over the road, in the line of sight, and/ or obstructing passage of large trucks on corners. Trees up to 60 – 70 feet from the edge of the road may be removed. This would improve safety and line of sight along NFS roads and increase the time that roads are dry. Areas with known rare plant species will be included in order to allow more daylight to reach those plants. In addition, native plants may be planted along roadsides in areas where variable density thinning occurs.

- **Prescribed fire:** Prescribed fire is a tool used in combination with other treatments to help create and maintain desired habitat conditions and promote new growth of many plant species, including several sensitive species. Approximately 9,300 acres within the Pine Creek Project area are in existing burn units delineated in 2014 for the London Fuels

Treatment Project. An additional 2,400 acres of prescribed burning is proposed to help maintain shortleaf pine, woodland communities, early seral habitat, midstory reduction, and certain rare plant communities. Approximately 2 miles of hand lines and 7 miles of dozer line may be needed to establish burn boundaries and control the fires. Other features such as existing creeks, roads, and trails would be used as control lines. Many of these areas are proposed as demonstration plots for public education and interagency cooperation through the Cumberland River Fire Learning Network.

- **Salvage timber sale:** A salvage timber sale is proposed on 45 acres damaged by the 2016 Lick Fire in the Cane Creek WMA. The 40-acre maximum harvest standard does not apply to areas affected by wildland fire or insect and disease outbreaks.

Nature of the Decision to Be Made

The London District Ranger is the Responsible Official for the Pine Creek Project. After considering the proposed action and any alternatives, environmental analysis, and public comments, the District Ranger will decide whether to take no action, implement the proposed action, or select an alternative action. If an action alternative is selected, the responsible official will decide where treatments may occur and what actions are approved.

Scoping Process

Data analysis, public input, and collaboration conducted during project planning has guided the development of the proposed action. The District hosted multiple collaboration workshops and field trips consisting of multiple agencies, special interest groups, and members of the public. Collaborators included KDFWR, The Nature Conservancy, KSNPC, US Fish and Wildlife Service, Kentucky Heartwood, University of Kentucky Forestry Department, Eastern Kentucky University, US Department of the Interior Office of Surface Mining, Green Forests Work, the Cumberland River Fire Learning Network, Kentucky Divisions of Forestry and Water, Region 8 Southern Research Station, and many others.

How to Comment: Opportunity to comment on the scope of the proposed action ends 30 days after the mailing of this letter. While the district will accept comments throughout the planning process, comments submitted during the formal 30-day scoping period are most useful for identifying issues and alternative development. Specific written comments are defined in 36 CFR 218.2 and 218.25(a)(3). Comments received in response to this solicitation, including names and addresses of those who comment, will be part of the public record for this proposed action. Those individuals and entities who submit timely and specific written comments during official comment periods are eligible to file objections during the objection period (36 CFR 218.25(a)(1)(i)). Comments submitted anonymously will be also accepted and considered; however, anonymous commenters will not be allowed to object to the decision

Mail comments regarding the Pine Creek Forest Restoration Project to:

Jason E. Nedlo
London District Ranger
761 South Laurel Road
London, KY 40744

Hand delivered written comments will be accepted at the above address between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday, except for Federal holidays.

Fax comments to: 606-878-0811.

Electronic comments should be in a common digital format and sent to: *comments-southern-daniel-boone-london@fs.fed.us*. Please list Pine Creek Project in the subject line. It is the sender's responsibility to ensure submitted comments have been received.

For additional information on the project, please contact Jared Calvert at jaredcalvert@fs.fed.us or by calling (606) 598-2192.

Sincerely,

JASON NEDLO
District Ranger

Figure 2 – Project Area Map

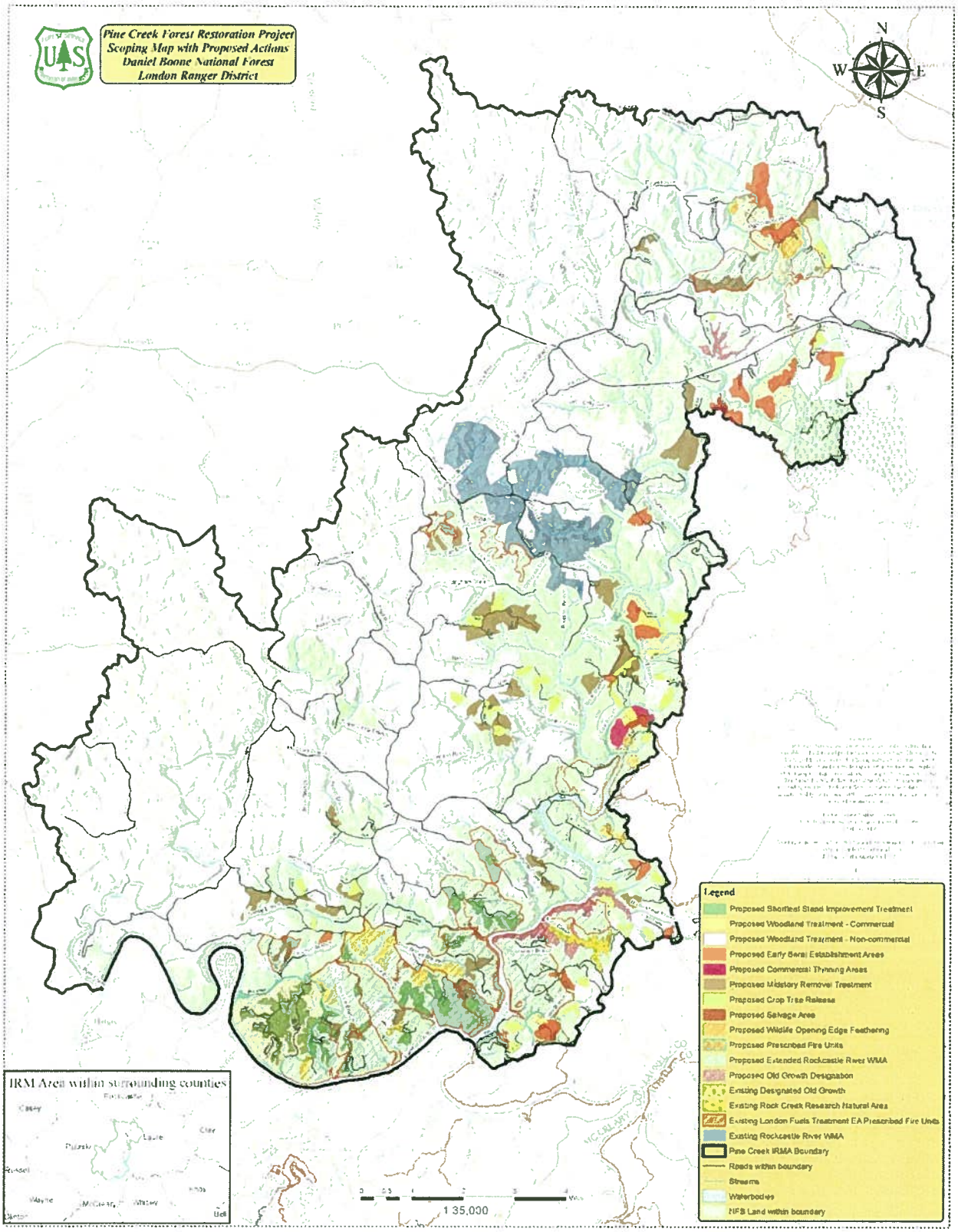

Figure 2. Proposed Activities for the Pine Creek Forest Restoration Project